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Office of Mobile Sources

Technical Highlights

Organization of Gasoline and Diesel Marine Engine Emission Standards

In several different rulemakings, the U.S. Environmental Protection Agency (EPA) has adopted emission standards that apply to various types of marine engines. This fact sheet shows how these requirements relate to each other and identifies where to find the requirements that apply to a specific engine.

As a producer of marine engines, when do I need to certify my engines?

The following information shows when emission standards start for different groups of marine engines. The dates listed apply to the time that you finish assembling an engine.

Spark-ignition Marine Engines

Outboards, personal watercraft, and jetboats (except jet boats using automotive engine blocks)

Corporate-average standards phase in between 1998 and 2006. All engines are certified to an emission level and get an engine label. The nine-year declining average allows you to gradually introduce emission controls across your product line. (See 40 CFR Part 91.) The California Air Resources Board adopted more stringent controls for these engines (http://www.arb.ca.gov)

Inboards, sterndrive, and air boat propulsion engines (recreational and commercial)

We intend to set emission standards in 2000 for these engines. The proposal will include several provisions to give flexibility for small-volume production.

Auxiliary marine engines less than 25hp

You must certify these engines to the requirements for the same size land-based nonroad spark-ignition engines. These standards first applied in 1997; we completed a second phase of emission standards for these engines that phase in between 2001 and 2005. (See 40 CFR Part 90.)

Auxiliary marine engines over 25 hp

You will need to certify these engines to the requirements for the same size land-based nonroad spark-ignition engines. The California Air Resources Board has standards for these engines made in 2004 and later. We intend to extend these emission standards nationwide on the same schedule.

Marine Diesel Engines

All marine diesel engines under 37 kW, with per-cylinder displacement over 50 cc, including: commercial and recreational stern drive and inboard propulsion and auxiliary

We set standards for these engines in the context of a land-based control program. The emission standards take effect in 1999 for engines below 19 kW, and in 2000 for larger engines. Some provisions apply uniquely to marine engines. For example, if you modify a land-based engine from another manufacturer for installation in a marine vessel, you can get up

All marine diesel engines over 130 kW

The MARPOL Annex VI curve (NOx limits only) applies to engines installed on vessels constructed on or after January 1, 2000, with exemptions for military vessels, emergency engines, and certain other applications. Pending entry into force of MARPOL Annex VI, engines on ships engaged in foreign trade should have a Statement of Compliance, issued by EPA. After entry into force of the Annex, engines on ships engaged in foreign trade must have an Engine International Air Pollution Prevention (EIAPP) certificate, issued by EPA. These emission standards are superseded for engines that must meet EPA requirements for marine diesel engines.

Commercial marine diesel engines over 37 kW, including engines with per-cylinder displacement up to 30 liters

New engines with per-cylinder displacement up to 2.5 liters need to meet EPA emission standards starting in 2004. New engines with per-cylinder displacement between 2.5 and 30 liters need to meet EPA emission standards starting in 2007. If you certify an engine to EPA standards, you don't need an additional certificate to show that you meet the MARPOL NOx limits, though you may be subject to MARPOL record keeping and inspection requirements. (See 40 CFR Part 94.)

Recreational marine diesel engines over 37 kW

We intend to set emission standards in 2000 for these engines. The proposal will include several provisions to give flexibility for small-volume production.

What definitions apply to these engine categories?

Propulsion engine A propulsion engine is an engine that moves a vessel through the water or directs the movement of a vessel. This includes bow thrusters and engines that use electrical power to propel the vessel.

Auxiliary Engine An auxiliary engine is a marine engine that is not a propulsion engine.

Recreational Marine Engine A recreational marine engine is a propulsion marine engine above 37 kW that is intended by the manufacturer to be installed on a recreational vessel.

Recreational Vessel A recreational vessel is, in general, a vessel that is intended by the vessel manufacturer to be operated primarily for pleasure, consistent with Coast Guard definitions. See 40 CFR 94.2 for more information.

Can I certify my engines before the date new standards take effect?

Yes. You may include some or all of the previous year's production in starting with any engines you produce after January 1, 2003. Also, most of these programs provide (or will provide) for banking of emission credits if you certify your engines ahead of schedule.

Are any of my engines exempt from EPA's emission standards?

See our fact sheet entitled Marine Diesel Engine Emission Standards: Scope of Application (EPA420-F-99-047).

What *Federal Register* references do I need to know?

Outboard/personal watercraft final rule: 61 FR 52087, October 4, 1996

Nonroad SI engines under 19 kW Phase 1 final rule: 60 FR 34582, July 3, 1995

Nonroad SI engines under 19 kW Phase 2 final rule: 64 FR 15208, March 30, 1999

Nonroad CI engines final rule: 62 FR 50152, September 24, 1997

For More Information

Additional documents on marine engine emission standards are available electronically on the Office of Mobile Sources' web site at:

http://www.epa.gov/oms/marine.htm

Document information is also available by writing to:

U.S. Environmental Protection Agency
Office of Mobile Sources
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